

AMENDMENTS TO THE CLAIMS:

Please amend claim 10 as indicated below. This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1-9. (Canceled)

10. (Currently Amended) A device for varying the direction of an optical beam, comprising:

a first waveguide directed along a first direction;

a second waveguide directed along a second direction different from the first direction;

and

a bending region interposed between the first and the second waveguide, said bending region comprising:

a photonic crystal having a regular periodicity and having at least a first and a second crystal axes substantially aligned with said first and second directions, respectively; and

a reflecting surface delimiting said photonic crystal and so positioned and oriented as to reflect an optical beam coming from the first waveguide toward the second waveguide,

wherein said photonic crystal is arranged so as to guide the optical beam coming from the first waveguide to the reflecting surface and to guide the reflected optical beam to the second waveguide.

11. (Previously Presented) The device according to claim 10, wherein the photonic crystal comprises a slab of dielectric material and said reflecting surface is realized by removing a portion of said slab.

12. (Previously Presented) The device according to claim 10, wherein said first and second directions are perpendicular to each other.

13. (Previously Presented) The device according to claim 12, wherein the photonic crystal has a periodic array of holes arranged according to a square geometry.

14. (Previously Presented) The device according to claim 10, wherein said first and second directions define an angle of $\pi/3$.

15. (Previously Presented) The device according to claim 14, wherein the photonic crystal has a periodic array of holes arranged according to a triangular geometry.

16. (Previously Presented) The device according to claim 10, wherein at least one of said first and second waveguides is an optical integrated waveguide.

17. (Previously Presented) The device according to claim 10, wherein at least one of said first and second waveguides is an optical fibre.

18. (Previously Presented) The device according to claim 10, wherein the photonic crystal is made of a bulk material with a first refractive index and has a periodic array of regions with a second refractive index different from the first and with predetermined radial dimensions; said optical beam having a wavelength so related to the difference between said first and second refractive indices, to the radial dimensions of said regions and to the period of said array that, starting from a isotropic distribution of the wave vectors of said electromagnetic radiation with a first angular range that is twice the angular extension of the first irreducible Brillouin zone of said photonic crystal, the group velocity vectors corresponding to said wave vectors are rearranged during propagation in said photonic crystal that at least 50% of the group velocity vectors become directed within a second angular range that is about one-third of said first angular range and the width at half-maximum of the distribution of the modules of said group velocity vectors is lower than about two thirds of said angular range.